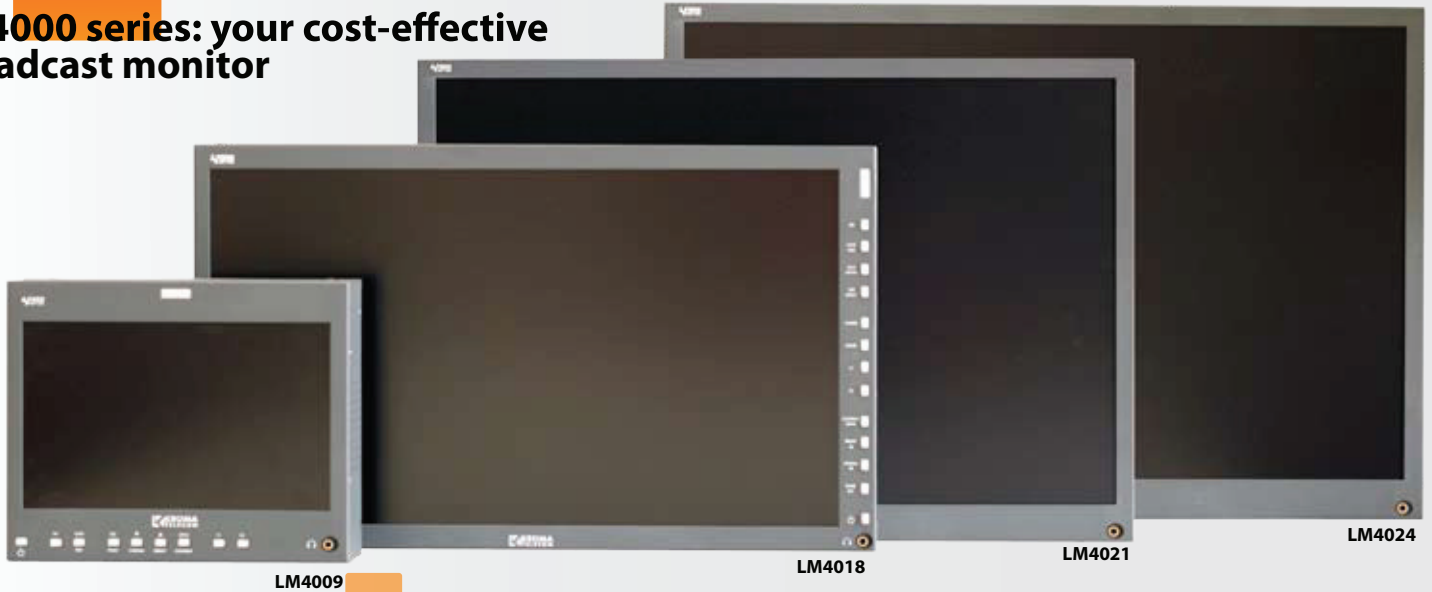


# LM4000 SD/HD Monitor Series

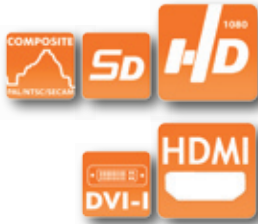
## LM4000 series: your cost-effective broadcast monitor

LM4000 SERIES  
SD/HD Monitors



### MAIN FEATURES

The new LM4000 series from KROMA includes a wide range of video inputs and additional tools for signal and quality control like WFM, vectorscope, VU-meters, IMD, etc. All you may need in a monitor, at an unbelievable price.



Two SD/HD-SDI inputs with active loop outputs and two composite inputs (optionally one input with output selectable by menu) are included by default.

One DVI-I and one HDMI inputs, provide direct connection with compatible cameras, multiviewers, PCs and analogue component video signals.

Additional tools have been included to assist in the signal monitoring, such as independent waveforms for Y, Cb and Cr, vectorscope and histogram, displayed in different colours for a quick identification of each tool.

It is possible to select the line of the signal in the waveforms for a more precise analysis of the picture.

The camera calibration tools support correct camera settings:

- With *luma check*, the picture is generally displayed in b/w, and out of range luminance values (below 16 or over 235) are coloured in red (underexposure) or blue (overexposure).

- With *false colour*, the range of luminance values is scaled in ten different levels and displayed with different colours, making the luminance adjustment easier at extreme lighting conditions.

- With *focus assist*, the focused edges are highlighted when matching a certain level of sharpness (configurable by menu).

Analogue and SDI-embedded audio may be listened with headphones or built-in speaker. An analogue output (for de-embedded audio) is included.

The on-screen meters, configurable in size and transparency, display up to 16 channels in different scales\*

The audio phase indicator shows the phase relationship between left and right channels, with special signaling when channels are in phase.

\* dBFS, BBC, DIN, Nordic, STD, NA, FRA, EBU

More than one signal may be monitored at once with PiP (Picture-in-Picture) and PBP (Picture-by-Picture) functions.

PbP compares two inputs side by side in different modes: original aspect ratio, full screen and half vertical portion of each signal (specially useful in colour matching).

*Pixel mapping* shows the real pixels of pictures with no downscaling involved (1:1 resolution). In 9" and 18.5" monitors, FullHD signals are "zoomed" and a browser allows to select and display different areas of the image.

The 4000 series monitors features IPS (In-Plane-Switching) technology with anti-reflection protection, improving viewing angles and colour reproduction compared to regular LCD displays.

High resolution dynamic in-monitor displays (IMD) are available on-screen through serial protocol. Additionally, the tally info (on screen or lamp) can be received serially or through contact closure.

Markers and safety area function have been greatly improved. Also including new markers, i.g. cinema formats, all compatible with the rest of on-screen functions.

It is possible to control the monitors remotely thanks to a the PC based KROMA Monitor Controller software.



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## SPECIFICATIONS

Model #	LM4009	LM4018	LM4021	LM4024
Size	9" (16:9 native)	18.5" (16:9 native)	21.5" (16:9 native)	24" (16:10 native)
Resolution	1280x768	1366x768	1920x1080	1920x1200
Active Area	195x113.4mm	409.8x230.4mm	476x268mm	518x324mm
Viewing Angle	178° H/V	178° H/V	178° H/V	178° H/V
MTTF	50,000 Hours	50,000 Hours	50,000 Hours	50,000 Hours
Brightness	350 cd/m <sup>2</sup>	350 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>	400 cd/m <sup>2</sup>
Contrast	900:1	1000:1	5000:1	1000:1
Response Time	8 ms	6 ms	6 ms	6ms
<b>Inputs</b>				
DVI	Connector	DVI-I		
	YPbPr RGB (VGA) DVI Graphic mode DVI Video mode	1080i (60, 59.95, 50), 576i@50, 480i@60i 640x480, 800x600, 1024x768, 1280x1024, 1600x1200 640x480 (60/50), 800x600 (60/50), 1024x768 (60/50), 1280x720(60), 1280x1024 (60/50), 1366x768 (60/50), 1920x1200 (60/50) 1920x1080(50), 60i, 50p, 60p		
HDMI	Connector	640x480(60/50), 800x600(60/50), 1024x768(60/50), 1280x720(60), 1280x1024(60/50), 1366x768(60/50), 1920x1200(60/50) 1920x1080(50), 60i, 50p, 60p		
Composite	Connector	2xBNC or 1xBNC (selectable by menu)		
	SMPT E 170M	PAL/NTSC/SECAM		
SD/HD-SDI	Connector	2xBNC		
	SMPT E-259M	576i@50, 480i@60		
	SMPT E-296M	720p(60/59.94/50)		
	SMPT E-274M SMPT E-260M	1080p(30/29.97/25/24/23.98), 1080i(60/59.94/50) 1035i(60/59.94)		
Audio	SDI embedded audio Analogue audio (Jack connector)			
In-Monitor display	RJ45 Connector			
Remote control	TSL Protocol (v3.1, Image Video,...)			
Tally	RS-485 (RJ45 connector)			
LTC/VITC/VITC2	SUB-D9 Connector (contact closure and voltage) Connector RJ-45 (serial protocol)			
<b>Outputs</b>				
Composite	1xBNC (selectable by menu)			
SD/HD-SDI	2xBNC (active loop)			
Audio	2x Analogue audio (Jack connector), front and rear Speakers VU-meters			
Tally	On-screen Lamp			
In-Monitor display	On-screen RJ-45 (loop output)			
<b>General</b>				
Dimensions	222 x 177.5 x 85.5 mm	446 x 264 x 106 mm	501 x 316 x 78 mm	552 x 379 x 92.5mm
Weight	1.5 Kg	5.5 Kg	5.6 Kg	8 Kg
Power	External PSU 100-240 VAC	External/Internal PSU 100-240 VAC	Internal PSU 110-240 VAC	Internal PSU 110-240 VAC
Power consumption	23 W	40 W	50 W	65 W
Model #	LM4009A11	LM4018A11: model with external PSU LM4018A15: model with internal PSU	LM4021A11	LM4024A11
Accessories	LM4009X80: rack mounting kit MS2305X50: desktop support LM4009X03: blank panel	LM4018X80: rack mounting kit MS2300X50: articulated desktop adaptor MS2304X50: fixed desktop adaptor	LM4021X80: rack mounting kit MS2300X50: articulated desktop adaptor MS2304X50: fixed desktop adaptor	LM4024X80: rack mounting kit MS2300X50: articulated desktop adaptor MS2304X50: fixed desktop adaptor

Specifications may change without prior notice

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AEQ - KROMA designs and manufactures 100% in Spain

